

Tone Loans: The Adaptation of English Loanwords into Yoruba

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1. Introduction

In this paper we present the results of a study of the tonal adaptation of English loanwords into Yoruba. The study is based on the c. 800 word corpus assembled in the appendix to Ojo (1977).¹ Yoruba is a language whose lexical items are composed of open-syllables that belong to one of three contrasting tonal categories: H(igh) (e.g. *rá* 'disappear', M(id) (e.g. *ra* 'rub'), and L(ow) (e.g. *rà* 'buy'). Consequently, in order to sound like a Yoruba word any loan must conform to the CV syllable template and be assigned a tonal specification. English lacks lexical tones. A word's F0 contour is determined by its position in an intonational phrase. Given the distinct phonological functions of tone in the two languages, it is an open question to what extent the Yoruba tonal adaptations take account of the English F0 contours. If adaptation were primarily based on equivalences at the phonological /phonemic level, we might not be surprised to see a default tonal pattern (presumably mid in Yoruba) emerge in the absence of any direct correspondence of phonological categories (as in Japanese or Korean--see Kubozono 2005 and Kenstowicz & Sohn 2001). In the few cases in which this question has been posed in the African context this is not what we appear to find. Rather there seems to be a direct correspondence between the major stress of English (or French) and a high tone in the borrowing language. This could reflect an equivalence drawn at a more abstract level of "prominence" in which stress peaks are equated with or marked by F0 maxima (cf. de Lacy 2002). Alternatively, it may reflect correspondence based on F0, given that the stressed syllable of English is the site of a H* pitch accent in citation contours. An additional complication is presented by the fact that a distinct variety of English has evolved in Nigeria. To what extent are the adaptation patterns observed in loans also reflected in Nigerian English? Can Nigerian English be viewed as the proximate source for loans? We briefly touch on these questions as well.

The rest of this paper is organized as follows. We present the major tonal adaptation strategies cast informally as OT constraints, starting with English words containing a single stress and then multiple stresses. We then turn to the behavior of inserted vowels. The paper closes with a brief comparison with the tonal adaptation of English loans into Hausa and Shona. To preview our conclusions, while the tonal adaptation strategies are quite similar, there are nevertheless subtle but systematic differences that are naturally described by differential ranking of familiar constraints. Since the source is arguably the same (British English), the ranking differences either reflect unknown properties of the three languages or different selections among a presumably limited set of options that have become established as grammatical rules operating in the loanword phonology.

2. Yoruba Major Adaptation Strategies

The gross generalizations characterizing the Yoruba tonal adaptations are stated in (1) for organic (nonpenthetic) syllables. See section 4 for epenthetic syllables.

- (1) i. stressed syllable in English source adapted with H tone
- ii. final syllable of English source adapted with L tone

¹ Thanks to Akin Akinlabi for calling Ojo's work to our attention and furnishing us with a copy.

- iii. pretonic syllables adapted with M (occasionally L) tone²
- iv. Yoruba MHL tonal pattern corresponds to the English rise+fall citation contour H*L%

The generalizations in (1) are illustrated by the paroxytones in (2) where the penultimate syllable is H and the final syllable is L; the pretonic syllables are predominantly M (occasionally L).

(2)	mu'latto	mọ́látò	'paper	pépa
	oc'casion	okésòn	'body	bọ́ḍi
	re'volver	rifọ́fà	'dollar	dọ́là
	re'corder	rikọ́dà	'hanger	àngà
	to'mato	tòmátò	'barber	bábà

English words with final stress are more varied. The forms in (3) illustrate the adaptation of words whose final vowel bears the main stress in English.

(3)	sur'vey	sọ́fẹ̀ẹ̀	'bar	báà	refu'gee	rẹ́fují
	de'lay	ḍílẹ̀ẹ̀	'bier	bíà	garan'tee	garantí
	de'cree	dikírífi	'draw	dúrọ̀ọ̀	refe'ree	rẹ́firí

The final vowel is doubled in the data of the first two columns. We interpret this as an adaptation strategy to realize both components of the falling F0 contour of the stressed syllable of the English source. Since Yoruba lacks long vowels, and since the syllable is the tone-bearing unit in Yoruba, the doubled vowels of (3) are interpreted as heterosyllabic. This "lengthening" only occurs in reflexes of English word-final stressed syllables. Hence it is plausibly interpreted as a strategy to reflect both the peak H* and the final L% that comprise the citation contour of the English source word. In the exceptional cases of the third column where just one tone is realized, the peak dominates the valley (Ident-H >> Ident-L).

The data in (4) illustrate adaptations with a final epenthetic syllable. In trisyllabic cases like 'pencil > pénsùlù the penultimate syllable corresponding to the English final syllable regularly takes L. Such faithfulness to the English source is also shown by the oxytones (*ad'dress* > adìrẹ̀ẹ̀sì) and monosyllables ('bath > báàfù). They systematically double the vowel.

(4)	'pencil	pénsùlù	'bath	báàfù	ad'dress	adìrẹ̀ẹ̀sì
	'pilot	páílọ̀fí	'bag	báàgù	ga'zette	gasẹ̀ẹ̀fí
	'dozen	dọ̀sìní	'bat	báàfí	a'larm	aláàmù
	'farthing	fáḍíní	'gum	gọ̀ọ̀mù	con'trol	kọ̀ntírọ̀lù
	'prefect	pírífẹ̀fí	s'ick	sííkí	re'ceipt	risíifí

The constraints and tableaux in (5) illustrate the analysis to this point.

- (5) Ident-H, L: Corresponding vowels in the English input - Yoruba output relation have identical specifications for H, L tone.

Dep-V: don't insert a vowel in the mapping between input and output.

/dózèn/	<u>Ident-H</u>	<u>Ident-L</u>	>>	<u>Dep-V</u>
-> dózèní				*
dózèní	*	*		*

² Ojo (1977) and Carter (1987) report that pretonic syllables are primarily assigned a M tone while A. Akinlabi (personal communication) assigns them to the L category. This may reflect a dialect difference (Olanike Ola Orie, personal communication). Other languages with three tone levels that adapt pretonic syllables as mid include Cantonese (Silverman 1992) and Fon (Gbetto 2000).

/bâg/	<u>Ident-H Ident-L >> Dep-V</u>
bágù	*!
-> bá.àgù	*
	**
/referí/	<u>Ident-H Dep-V >> Ident-L</u>
-> refirí	*
refirí.ì	*!

Given that the MH*L% contour has the correspondence depicted in (6), there does not appear to be strong motivation for assigning the medial (penultimate) syllable of a proparoxytone such as 'senator to a particular tonal category. In the English source it is presumably a zone of transition between the H* and L% and so might be expected to be M or have no determinant value in the eyes of a Yoruba speaker.

(6) English	H*	L%
	□	□ □
Yoruba	M H	L

The facts are that the medial syllable of a proparoxytone is systematically adapted as H in Yoruba, as shown by the data in (7).

(7)	'camera	kámèrà	ma'ternity	matánífi
	'councilor	kánsílò	mu'nicipal	munísipà
	'liberty	libáfi	com'misioner	komísónnà
	'senator	sénétò	par'ticulars	patíkúlà
	'embassy	émbási	au'thority	otórífi

What could be the source of this behavior? It is well known that both Yoruba H and L tones spread into the following syllable in a HLH sequence; M neither spreads its tone nor attracts a preceding H or L (Akinlabi & Liberman 1995). One possibility is that when presented with a structure like (6), the H simply crosses the empty medial syllable to reach the final L. But if the motivation for the Yoruba tone spread is to allow more time to traverse the distance between H and L tonal targets, then the unspecified medial syllable should provide ample opportunity to reach the L and so a transitional M might be expected instead. Another possibly relevant factor is that the same process is found in the adaptation of English loans into Hausa (Leben 1996) and Mende (Leben 1978).

(8)	<u>English</u>	<u>Hausa</u>	<u>English</u>	<u>Mende</u>
	'camera	kyamaràa	'minister	mínisà
	'manager	manajàa	'spectacles	pétíkù

So far as we know, a process comparable to the Yoruba H spreading onto a following L is not found in Hausa or Mende. If true, this point casts doubt on the appeal to this process as the reason for the Yoruba adaptation. Another possibility is that the spread of H reflects the behavior of this tone in the realization of tonal melodies in the two languages. Zoll (2003) observes that Hausa /HL/ and /LH/ melodies are realized as HHL and LHH, respectively, and suggests that H is spread in preference to L (*L⁺ >> *H⁺). But Mende realizes /HL/ and /LH/ melodies as HLL and LLH by spreading the L (*H⁺ >> *L⁺). Thus, the uniform spread of H in both Hausa and Mende loanword adaptations would not follow directly from the tonal grammar operating over the native lexicons of each language. It thus appears that the rightward spread of the H that we find in Yoruba, Hausa, and Mende must be stipulated as a rule of the loanword phonology of these languages independent of native L1 synchronic system. Descriptively, it could be viewed as a preference for perseverative tone spreading or, in the spirit of Zoll (2003), as a dispreference for the spread of L. The latter alternative entails that the

pretonic M in forms like *par'ticulars* > *patíkùlà* arises from a /MH*L%/ analysis of the input in order to block bidirectional spread of H. We return to this question of directionality in Section 3.

3. Multiple Stresses

In this section we look at the adaptation of words with multiple stresses in the English source as well as cases where the Yoruba adaptation suggests an analysis with multiple stresses. Given that H marks the stress peak, L marks the final syllable, and M marks pretonic syllables, Yoruba does not have available another tonal level to distinguish prominence among stressed syllables. One might then expect to find a secondary stress of English to be treated either as a Yoruba H or as a Yoruba M. In fact, both of these adaptations are found. In the following discussion we distinguish three different cases.

First, the corpus contains examples of English compounds which are evidently borrowed as single lexical items. The secondary stress (marked by the double tick) of the second member of the compound is adapted as a M.

- | | | | | |
|-----|----------------|-------------|------------------|-----------|
| (7) | 'race "course | résíkoòšì | 'show-"case | sókeèšì |
| | 'round-a"bout | rándàbaòtù | 'show "glass | sógilaašì |
| | 'scholar"ship | síkólásíipù | | |
| | 'money "lender | mònílèdà | (cf. 'money mòní | |

None of these words happens to contain a pretonic M. It is unclear if that is just a coincidence or if such cases are avoided because M tone cannot mark both pretonic unstressed syllables as well as secondary stress in the same adaptation.

Words whose English source contains two stresses but are not compounds display three adaptation patterns, depending on the location of the primary stress. First, we consider words with a primary+secondary stress contour where the secondary stress is not final. A small number of English loans of this type have high tone that extends over the correspondents of both stressed syllables.

- | | | | | |
|-----|--------------|-----------|------------|---------|
| (8) | 'missio"nary | mísónnáří | 'mortu"ary | mòsúáří |
| | 'Febru"ary | Fébuáří | | |

More typical is the adaptation where the English secondary stress is marked by H and the primary by M.

- | | | | | |
|-----|---------------|------------|---------------|----------|
| (9) | 'agricul"ture | agirikósò | 'ampli"fier | apifáyà |
| | 'heli"copter | èlikópùtá | 'cater"pillar | katapílà |
| | 'aero"plane | erópúlèèńń | | |

Finally, there are many examples where the English source word has a rising stress contour (secondary+primary). The Yoruba reflexes invariably show just one H that corresponds to the primary stress of the English source. The secondary stress is M.

- | | | | | |
|------|---------------|------------|--------------|-----------|
| (10) | "manu'facture | manufákísò | "Coro'nation | koronésòń |
| | "alu'minium | àlùmínìòń | "lemo'nade | lèmonèèđì |
| | "vase'line | fasilfĩń | | |

Several factors could motivate the apparent shift of stress to the right that neutralizes the contrast between the '□+"□ of (9) and "□ +□ contour of (10) in favor of the latter. First, it might derive from a simplification in the grammar of Nigerian English (NE), which may plausibly serve as an intermediate stage in the loanword adaptation process. In fact, Atoye (1991) reports rightward stress shift as one of

the major innovations of Nigerian English.³ Another motivating factor could be that in Yoruba loans the L is bound to the syllable corresponding to the final syllable of the source. The transition from H to L is cross-linguistically the most prevalent marking of prominence in pitch accent systems (Gomez-Imbert & Kenstowicz 2001, de Lacy 2002). Also, Yoruba raises the F0 of a H that precedes L (Laniran 1992). Positioning prominence before this L would be optimal from the point of view of Yoruba grammar.

Earlier we interpreted the vowel doubling found on the correspondent of the final syllable of the English source as reflecting the Yoruba perception of a stress prominence. There are quite a few cases where this doubling appears in both paroxytones and proparoxytones.

(11)	'bonnet	bónèèṣì	'almanac	álúmánáàkì
	'college	kóléèṣì	'negative	négéṣìfù
	'magic	májíṣì	e'lectric	eléṣìtíríṣì
	'notice	nótíṣì	'Methodist	métòḍíṣì

But there are a significant number in which the final syllable reflects absence of stress.

(12)	'pencil	péṣìsùlù	'principal	pírínsípùlù
	'vowel	fáwèṣì	'consonant	kónsónàṣì
	'customs	kòsìtòḿù	'reverend	réfúrèṣì
	'lesson	lèṣìṣì	'catechism	katíkísímù
	'linen	línèṣì	'stadium	sítádíòḿù

While there are exceptions in both directions, the English sources in (11) primarily end in obstruents while those in (12) end in sonorants. One might think that latter are heard as syllabic consonants and hence that that syllable is less prominent/sonorous. But the fact that the vowel that substitutes for the putative syllabic sonorant matches the source spelling in a significant number of cases casts doubt on this interpretation.

In a discussion of English loans in Yoruba that otherwise anticipates some of our results, Ufomata (1991) sees the doubling in monosyllables like *tea* > *tí.ì* and *bar* > *bá.à* as a strategy to conform to the generalization that Yoruba nouns contain two syllables. While the latter point may be true, it is hard to see why lengthening would be extended to CVC words like *bag* > *bá.àgù* which become disyllabic anyway via epenthesis, let alone to the polysyllabic nouns of (11). A comprehensive explanation of the distribution of doubling in Yoruba loans requires a better understanding of stress in Nigerian English.

4. Epenthetic Syllables

It is well known that epenthetic syllables often behave differently from organic syllables with respect to synchronic phonological structure (Broselow 1982 and much later literature). The distinction is also important in loanword phonology where a principle of Minimal Saliency operates (see Shinohara 1997, Kenstowicz 2001, Steriade 2001) to make the inserted vowel as close to its zero correspondent as possible. Hence, epenthetic vowels tend to be brief (schwa or [i] or [u]) or have their quality camouflaged by adjacent consonants or vowels. In Yoruba loans the inserted vowel is consistently a high vowel: [u] in the context of labials and [i] otherwise (Akinlabi 2000). In the absence of schwa a

³ In the few cases where the words cited by Atoye as instances of stress shift happen also to appear as loans in the Ojo corpus, the locus of H in the loan largely mimics the main stress of Nigerian English.

<u>BSE</u>	<u>NE</u>	<u>Y</u>
'petrol	pe'trol	peṣìròḍlù
'curfew	cur'few	kóṣìfù
'hospital	hos'pital	osipítùlù
'telephone	tele'phone	teṣìlífòḍnù
'cinema	cine'ma	sinimá

high vowel is presumably the phonetically shortest in the inventory so Yoruba arguably conforms to the Minimal Saliency principle. Tonally the inserted vowels also behave in a way that follows from this principle: they copy the tone of an adjacent TBU. This point has been noted explicitly for initial and final vowels by Ufomata (1991). Given that the correspondent of the English final syllable is consistently marked by L, any following epenthetic vowel is thus L as well. This point is evident throughout the data cited previously. An initial epenthetic vowel faithfully mirrors the tone of the following syllable, which varies among H and M (and L when the pretonic vowel is L instead of M).

(13)	'brother	búródà	'schnapps	sínáàbù
	'blazer	búlézà	cre'ole	kiri'yó
	bro'cade	burokèèḍi	'granny	gǐràní
	'blanket	bulankèḗṣi		

More interesting is the behavior of medial epenthetic syllables. Here either the preceding or the following tone could be copied. In this case the outcome is determined by the type of consonant cluster found in the English source. Vowels that split an Obstruent-Sonorant cluster (OR for short) copy the tone of the following vowel--the vowel flanking the sonorant. In the case of posttonic syllables a "dactylic" HLL tonal contour is assigned that contrasts strikingly with the HHL of organic syllables.

(14)	<u>OR</u>	<u>HLL</u>		<u>HHL</u>
	ca'thedral	katíḍirà	'labourer	lébírà
	'muffler	mọf'ílà	par'ticular	patíkúlà
	'nursery	nọsǐrǐ	'councilor	kánsílọ
	'bat[t'ry]	bátǐrǐ	'consonant	kòsónàntǐ
	'boun[d'ry]	bándǐrǐ	'regular	régúlà
	'op'ner	ópùnà	'labourer	lébírà
	'gov'ner	gọfínà	'liberty	líbátǐ

Otherwise, the H tone of the stressed correspondent is spread from the left.⁴

(15)	<u>OO</u>		<u>RO</u>		<u>RR</u>	
	'doctor	dókítà	'silver	sílífà	'Selma*	sélímà
	'heli'copter	ẹlikópútà	'welder	wẹfídà	'Elmer*	ẹlímà
	'easter	ísítà	'album	álúbọmù		
	'castor	kásítọ				
	'customs	kọsítọmù				

The same disparity between OR clusters versus the rest operates pretonically as well.

(16)	<u>OR</u>		<u>RR</u>	
	la'trine	latírǐnǐ	Bal'moral*	bàlímórà
	con'trol	kontíróòlù	El'mira*	ẹlímáírà
	ad'dress	àḍírèḗṣi		
	<u>RO</u>		<u>OO</u>	
	ad'vance	àlùbánsǐ	dis'penser	ḍisǐpénsà
	Albert**	alubáàṣi	ab'sorb*	àbùsọbù
	Alfred**	àlùfúrèḗḍi	ab'dominal*	àbùdómínà

⁴ Adaptations marked by a single asterisk were supplied by Akin Akinlabi; those marked by a double asterisk are from Salami (1982).

studied in considerable detail by Leben (1996) based on a corpus of c. 335 English loans taken primarily from R. Newman (1990). Here we review Leben's findings focusing on the points of similarity and difference between Hausa and Yoruba.⁶

Hausa adapts words with a single stress in the English source in essentially the same way as Yoruba. Paroxytones are HL and oxytones are F. Proparoxytones show the doubled HHL. (We follow the Hausa linguistic tradition and transcribe H tones with no accent mark.)

(19)	'visa	biizàa	'shirt	shât
	'parlour	faalòo	'film	fil
	di'rector	dàarakàtà	re'ceipt	ràsît
	'captain	kyaftìn	co'caine	kòokên
	ac'countant	àkantàa	tange'rine	tànjàrìn
	'camera	kyamaràa		
	'manager	manajàa		
	'primary	fíramarèe		
	'carpenter	kaafintàa		
	'handkerchief	hankicì		

English words with two stresses (primary+secondary) are split roughly equally between those that mark both stresses with a H (13 examples) versus those that mark just the second (10 examples). The latter are consistent with the rightward shift of primary stress suggested by the Yoruba data in (9). One point of difference is that Hausa marks the first prominence with a HL while for Yoruba L is confined to the final syllable in loans. Stated differently Yoruba evidences a ban on HLH sequences in the loans--perhaps not surprising in a language with both mid tones as well as downstep of H.

(20)	'scholar"ship	sùkoolàshîf	'carbu"retor	kàafireetòo
	'heli"copter	helikaftàa	'Cater"pillar	kàtàfiilàa
	'time"keeper	tânkiifàa	'orga"nizer	òogàneezàa
	'choco"late	caakùleetì	'type-"writer	tàafireetàa
	'culti"vator	kultìbeetàa	'quarter"master	kwàtàmastàa

Turning to the epenthetic syllable, as in Yoruba it is a high vowel [u] in the context of labials and otherwise [i]. (It is [a] before [r]). Tonally, there are some differences compared to Yoruba. In Hausa the final epenthetic vowel is always L. But instead of copying the L of the English H*L% contour from the correspondent of the source as in Yoruba, in Hausa the L% is mapped directly to the final epenthetic syllable. Perhaps this can be viewed as the avoidance of a FL sequence (Hyman & Schuh's 1974 Tonal Absorption).

(21)	'lace	leeshì	cf. Yoruba	léèsì
	'bandage	bandeejì		bándéèjì

An initial epenthetic syllable sometimes copies the H of a following syllable and is otherwise L--presumably the default tone. Tonal copy seems to depend on the nature of the second member of the #CC cluster. If it is a sonorant then H may copy across (18 examples vs. 12 with default L); if it is an obstruent (#sC) the tone is invariably default L (13 examples).

(22)	'practice	faraatìs	'blue	bùlù	'spirit	sìfirìt
	'flour	filaawà	'flask	filàs	'stamp	sìtamfii
	'plot	fulootì	'bread	bùroodì	'skirt	sìkyât
	'clutch	kuloocì	'pliers	filaayàa		

⁶ Thanks to Wil Leben for sharing his corpus.

Leben (1996) notes a striking asymmetry in the behavior of medial epenthetic syllables following the correspondent to the English tonic H*. While the H systematically spreads to a following organic syllable (cf. 19), it just as regularly fails to spread to an epenthetic syllable (13 examples). This is precisely the same behavior as found in Yoruba and follows from the principle of Minimal Saliency. Examples appear in (23).

(23)	as'sembly	àsambùlèè
	'England	ingìlà
	'ice-cream	askìrìn
	'railway	reelùwèè
	(turn) 'signal	sigìnà

Leben cites *kitikàa* 'kit car', *likità* 'doctor' and *asimàa* 'asthma' as exceptions. The first two have obstruent clusters which we have seen block the regressive spread of the L in Yoruba. The same explanation may be applicable here. We also found a few examples of medial pretonic OR clusters where the tonic H* fails to spread backwards: *dìgìrì* 'degree', *àdìreeshii* 'address', *tàafireetàa* 'typewriter', *sùkkùdireebàa* 'screw-driver'. While there are more exceptions in the Hausa corpus, Hausa follows Yoruba in allowing the epenthetic vowel to assimilate its tone across a sonorant. Otherwise, it receives a default L tone.

6. Shona

In this section we compare the tonal adaptation patterns found in Yoruba and Hausa with the results of a preliminary study of English loans into Shona based on the English words beginning in the letters r, s, k, b, and f in M. Hannah's (1981) dictionary (cf. also Carter 1983). In Shona the syllable is the tone-bearing unit; Shona contrasts H vs. L (or zero) in nouns so that two tone patterns occur for monosyllables, four for disyllables, and eight for trisyllables. Verbs are H or L as a function of the root. On the basis of the loan data collected, tonal adaptation in Shona appears to be much simpler. As in Yoruba and Hausa, the syllable corresponding to main stress of the English source is assigned a H (24a). But there is no spread of H in proparoxytones. Furthermore, epenthetic syllables are uniformly L as well (24b). The only case of H spread was found in a few words with a syllable that is located between the correspondents of two stressed syllables in the English source that are assigned a H (24c). Here, the expected HLH is replaced by HHH. Not enough data with multiple stresses has been located to determine if both stresses translate to H as a general rule.

(24) a. proparoxytones

'recipe	resipi	HLL	'lemonade	remonedhi	HLLL
'litany	ritani	HLL	phi'losophy	firosofi	LHLL
'cinnamon	sinamoni	HLLL			

b. epenthetic vowels

'sulpher	sarifa	HLL	'sister	sisita	HLL
'silver	sirivhu	HLL	'filter	filita	HLL
'snow	sinou	LHL	'cream	kirimu	LHL
'skirt	siketi	LHL	'clips	kiripisi	LHLL
'clinic	kiriniki	LHLL	'blanket	bhurangeti	LHLL

c. multiple stress

ac'cele"rator	senereta	HHHL
'sell-"out	sereauti	HHHL
'flying ma"chine	furaimachina	LHLLHL

While the assignment of L to the correspondents of stressless syllables might be argued to mimic the F0 of the source, the consistent assignment of L to epenthetic syllables as well suggests that L is a default. This accords with the received view that Shona, and Bantu languages in general, contrast H vs. Ø. See Myers (1997) for an analysis of Shona in these terms. The choice of L as the default is arguably also in accord with Minimal Salience, given that H marks salient syllables.

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